

REMARKS

Claims 1–9 and 13–16 are pending in this application. Applicants respectfully request entry of the amendment above and further consideration of the present application in view of the amendment above and the remarks below.

Support for Claim Amendments

The amendments presented above have been made to recite particular features of the inventions so as to expedite the prosecution of the present application to allowance in accordance with the USPTO Patent Business Goals (65 Fed. Reg. 54603, September 8, 2000). These amendments do not represent an acquiescence or agreement with any of the outstanding rejections.

Claims 1, 2 and 7–9 are amended herein to more particularly point out what Applicants regard as the invention. New claims 17–19 are directed towards particular embodiments of the invention. Support for the amendments can be found in the specification and drawings as originally filed. The issues raised by the Examiner are addressed hereinbelow in the order in which they appear in the Action.

Claim Rejections - 35 U.S.C. § 102

Claims 1, 3, 4, 7, 14 and 15 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,824,709 to Suka (“Suka”). It is the assertion of the Examiner that the disclosures of Suka teach each and every limitation of that which is instantly claimed.

Case law holds and the Manual for Patent Examination Procedure (“M.P.E.P.”) states that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Furthermore, the identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Additionally, anticipation under 35 U.S.C. § 102 requires the disclosure in a single piece of prior art of each and every limitation of a claimed

invention. *Apple Computer Inc. v. Articulate Systems Inc.* 57 USPQ2d 1057, 1061 (Fed. Cir. 2000). Furthermore, a finding of anticipation further requires that there must be no difference between the claimed invention and the disclosure of the cited reference as viewed by one of ordinary skill in the art. See *Scripps Clinic & Research Foundation v. Genentech Inc.*, 927 F.2d 1565, 1576, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991). Additionally, the cited prior art reference must be enabling, thereby placing the allegedly disclosed matter in the possession of the public. *In re Brown*, 329 F.2d 1006, 1011, 141 U.S.P.Q. 245, 249 (C.C.P.A. 1964). Thus, the prior art reference must adequately describe the claimed invention so that a person of ordinary skill in the art could make and use the invention.

Suka discloses a method for recovering a thermoplastic polymer from a waste plastic (PS, EPS, ABS and PP) comprising the steps of: crushing the waste plastic after heating the waste plastic to 180–200 °C to reduce the size; dissolving the waste plastic in a dissolvent having a temperature of 75–175 °C; and spraying the dissolved solution into an evaporator having a temperature of 200–300 °C under a pressure of 1–75 torrs to remove the solvent by evaporation (flash-drying).

As amended herein, claim 1 incorporates the recitations, “reducing a volume of the expanded polystyrene by compression by an extruder to partially melt the crushed polystyrene without external heating” and “heating the dissolved expanded polystyrene to a temperature of 200 °C or less.” The disclosures of Suka describe reducing the volume of the expanded polystyrene by heating the expanded polystyrene to 180–200 °C. However, the disclosures of Suka do not teach or suggest a method comprising a step of reducing a volume of the expanded polystyrene by compression by an extruder to partially melt said polystyrene without external heating. Furthermore, the evaporation of solvent as recited in the claims of the present invention takes place at a temperature of 200 °C or less.

As such, Applicants present that the instant claims are not anticipated by the disclosures of Suka, and in view of the foregoing, Applicants respectfully request that the instant rejection be withdrawn.

Claim Rejections - 35 U.S.C. § 103

Claims 2 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Suka as applied to claim 1 and further in view of U.S. Patent No. 5,217,660 ("Howard"). It is the assertion of the Examiner that it would have been obvious to one of ordinary skill in the art at the time of the invention to use the pellets of recycled polystyrene taught by Suka to form a new expanded polystyrene foam product.

As stated in the recently published Examination Guidelines for Determining Obviousness, "the Supreme Court reaffirmed the familiar framework for determining obviousness as set forth in *Graham v. John Deere Co.*..." (Examination Guidelines for Determining Obviousness Under 35 U.S.C § 103 in View of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc.* Federal Register Vol. 72, No. 195, 57526-57535, 57526). Hence, and as long established under that framework, to establish a *prima facie* case of obviousness, three requirements must be satisfied (M.P.E.P. § 2143). First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or to combine references. *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1446 (Fed. Cir. 1992); *In re Fine*, 837 F.2d at 1074; *In re Skinner*, 2 U.S.P.Q.2d 1788, 1790 (Bd. Pat. App. & Int. 1986). Second, the proposed modification or combination of the prior art must have a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *See Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1209, 18 U.S.P.Q.2d 1016, 1023 (Fed. Cir. 1991). Third, the prior art reference or combination of references must teach or suggest all of the limitations of the claims. *See In re Wilson* 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (CCPA 1970) ("All words in a claim must be considered in judging the patentability of that claim against the prior art").

As discussed above, the prior art reference or references when combined must teach or suggest *all* the recitations of the claims, and there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. M.P.E.P. § 2143. The mere fact that references can be combined or modified does not render the resultant combination

obvious unless the prior art also suggests the desirability of the combination. M.P.E.P. § 2143.01, citing *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). As emphasized by the Court of Appeals for the Federal Circuit, to support combining references, evidence of a suggestion, teaching, or motivation to combine must be clear and particular, and this requirement for clear and particular evidence is not met by broad and conclusory statements about the teachings of references. *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). In an even more recent decision, the Court of Appeals for the Federal Circuit has stated that, to support combining or modifying references, there must be particular evidence from the prior art as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed. *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000).

As with the disclosures of Suka, the disclosures of Howard fail to describe “reducing a volume of the expanded polystyrene by compression by an extruder to partially melt the crushed polystyrene without external heating” and “heating the dissolved expanded polystyrene to a temperature of 200 °C or less,” i.e., the recitations of claim 1 as amended herein. As such, Applicants present that claim 2 is not obvious over the disclosures of Suka and Howard, in that the disclosures of Suka and Howard, individually or in combination, do not teach all the limitations of that which is claimed. The cancellation of claim 13 herein renders the rejection of the instant claim on this basis moot. In view of the foregoing, Applicants respectfully request that the instant rejection be withdrawn.

Claims 5 and 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Suka as applied to claim 1 and further in view of Japanese Application Publication No. 2000-256502 (“Shin-Etsu”). The Examiner relies on the disclosures of Shin-Etsu for the teachings of using a methylene chloride and epoxide solution for reducing the volume of polystyrene foam And asserts that it would have been obvious to one of ordinary skill in the art to use the same in the method taught by Suka.

As presented above, the disclosures of Suka and Shin-Etsu, either individually or in combination, fail to describe the recitations of “reducing a volume of the expanded polystyrene by compression by an extruder to partially melt the crushed polystyrene without external

heating” and “heating the dissolved expanded polystyrene to a temperature of 200 °C or less,” i.e., the recitations of claim 1 as amended herein. As such, Applicants present that the instant claims are not obvious over the disclosures of Suka and Shin-Etsu, and in view of the foregoing, Applicants respectfully request that the instant rejection be withdrawn.

Claims 8, 9 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Suka as applied to claims 1 and 7, and further in view of Howard. It is the assertion of the Examiner that it would have been obvious to one of ordinary skill in the art at the time of the invention to use pellets comprising recycled polystyrene as taught by Suka to form a new expanded polystyrene product using the method taught by Howard.

As presented above, neither the disclosures of Suka nor the disclosures of Howard, individually or in combination, describe the recitations of “reducing a volume of the expanded polystyrene by compression by an extruder to partially melt the crushed polystyrene without external heating” and “heating the dissolved expanded polystyrene to a temperature of 200 °C or less,” i.e., the recitations of claim 1 as amended herein. Applicants thus present that the instant claims are not obvious over the disclosures of Suka and Howard, and in view of the foregoing, Applicants respectfully request that the instant rejection be withdrawn.

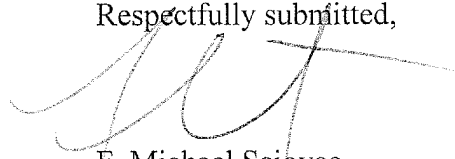
In re: Seki et al.
Serial No.: 10/525,545
Filed: February 24, 2005
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CONCLUSION

Accordingly, Applicants submit that the present application is in condition for allowance and the same is earnestly solicited. Should the Examiner have any small matters outstanding of resolution, he is encouraged to telephone the undersigned at 919-854-1400 for expeditious handling.

No fee is believed due with the filing of this paper. Applicant believes this amount to be correct; however, the Commissioner is hereby authorized to charge any deficiency or credit any refund to Deposit Account No. 50-0220.

Respectfully submitted,



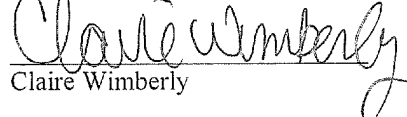
F. Michael Sajovec
Registration No. 31,793

Customer Number 20792

Myers Bigel Sibley & Sajovec, P.A.
P.O. Box 37428
Raleigh, NC 27627
Phone: 919-854-1400
Fax: 919-854-1401

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Claire Wimberly